

In the Claims:

1 1. (currently amended) A hard sintered body indexable insert
2 in which a hard sintered body that contains cubic boron
3 nitride by 20 vol % or more is brazed to a seating groove
4 formed at a corner of a tool substrate, and a ridge of the
5 hard sintered body is used as a cutting edge, the hard
6 sintered body indexable insert characterized in that at
7 least a pair of hard sintered bodies or composite hard
8 sintered bodies are disposed on upper and lower surfaces in
9 a thickness direction of the hard sintered body indexable
10 insert; a thickness of a part of the tool substrate between
11 the pair of seating grooves is within a range of 30% to 90%
12 with respect to a thickness of the hard sintered body
13 indexable insert; a length of a cutting edge of the hard
14 sintered body or of the composite hard sintered body is
15 within a range of 0.5 mm to 4.0 mm; and a brazed bonding
16 layer that has been brazed contains 0.5 to 65 wt % Ti
17 and/or Zr and further contains ~~Cu~~ Cu; and the hard
18 sintered body is directly bonded to the tool substrate via
19 the brazed bonding layer.

1 2. (original) The hard sintered body indexable insert as
2 recited in Claim 1, wherein the hard sintered body or the
3 composite hard sintered body is 0.8 mm to 1.6 mm in
4 thickness per piece.

Claims 3 to 7 (canceled).

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1 8. (withdrawn) A manufacturing method for manufacturing the
2 hard sintered body indexable insert according to claim 1,
3 the manufacturing method comprising:

4 a step of preparing a paste-like brazing alloy by
5 mixing a powdery brazing alloy that contains 0.5 to 65 wt %
6 Ti and/or Zr and that further contains Cu with an organic
7 binder;

8 a step of bonding the hard sintered body or the
9 composite hard sintered body to a seating groove of the
10 upper surface of the tool substrate through the paste-like
11 brazing alloy and thereafter temporarily fastening the hard
12 sintered body or the composite hard sintered body by
13 evaporating a solvent component of the organic binder;

14 a step of bonding the hard sintered body or the
15 composite hard sintered body to a seating groove of the
16 lower surface of the tool substrate through the paste-like
17 brazing alloy and thereafter temporarily fastening the hard
18 sintered body or the composite hard sintered body by
19 evaporating the organic binder; and

20 a step of brazing and fixing the hard sintered body
21 indexable insert in which the hard sintered body or the
22 composite hard sintered body is bonded to tool substrate in
23 a vacuum or in an inert gas atmosphere.

1 9. (withdrawn) The manufacturing method as recited in Claim 8,
2 wherein the brazing alloy contains 20 wt % to 30 wt % Ti
3 and 20 wt % to 30 wt % Zr, and the remainder of Cu and
4 inevitable impurities.

1 10. (withdrawn) The manufacturing method as recited in Claim 8,
2 wherein the brazing alloy contains 0.5 wt % to 20 wt % Ti
3 and/or Zr, 10 wt % to 40 wt % Cu, and the remainder of Ag
4 and inevitable impurities.

1 11. (withdrawn) The manufacturing method as recited in Claim 8,
2 wherein the brazing alloy contains 0.5 wt % to 10 wt % Ti
3 and/or Zr, 5 wt % to 20 wt % In, 15 wt % to 35 wt % Cu, and
4 the remainder of Ag and inevitable impurities.

Claim 12 (canceled).

Claim 13 (canceled).

1 14. (previously presented) The hard sintered body indexable
2 insert as recited in Claim 1, wherein the bonding layer
3 contains 20 wt % to 30 wt % Ti and 20 wt % to 30 wt % Zr,
4 and the remainder of Cu and inevitable impurities.

1 15. (withdrawn) The hard sintered body indexable insert as
2 recited in Claim 1, wherein the bonding layer contains 0.5
3 wt % to 20 wt % Ti and/or Zr and contains 10 wt % to 40
4 wt % Cu and the remainder of Ag and inevitable impurities.

1 16. (withdrawn) The hard sintered body indexable insert as
2 recited in Claim 1, wherein the bonding layer contains 0.5
3 wt % to 10 wt % Ti and/or Zr, and contains 5 wt % to 20

4 wt % In and 15 wt % to 35 wt % Cu, and the remainder of Ag
5 and inevitable impurities.

1 17. (withdrawn) The hard sintered body indexable insert as
2 recited in Claim 1, wherein on a surface of the hard
3 sintered body indexable insert, there is formed a coating
4 layer comprising at least one element selected from the
5 group consisting of elements belonging to groups IVa, Va,
6 VIa in the periodic table and elements Al, Si, and B, or at
7 least one compound selected from the group consisting of
8 nitride, carbide, or oxide of at least one metal selected
9 from this group, and their solid solutions.

1 18. (withdrawn) The manufacturing method as recited in Claim 8,
2 further comprising a step of forming, on a surface of the
3 hard sintered body indexable insert, a coating layer
4 comprising at least one element selected from the group
5 consisting of elements belonging to groups IVa, Va, VIa in
6 the periodic table and elements Al, Si, and B, or at least
7 one compound selected from the group of nitride, carbide,
8 or oxide of at least one metal selected from this group,
9 and their solid solutions, according to a physical vapor
10 deposition method or according to a chemical vapor
11 deposition method.

1 19. (previously presented) An indexable tool insert comprising:
2 a tool substrate having two opposite major surfaces
3 with a total substrate thickness perpendicularly

therebetween, and first and second seating recesses that are respectively recessed into said opposite major surfaces at two corners of said indexable tool insert, with a remaining portion of said tool substrate remaining between said first and second seating recesses, wherein said remaining portion of said tool substrate between said first and second seating recesses has, perpendicular to said major surfaces, a remaining thickness of 30% to 90% of said total substrate thickness;

first and second sintered body members that each contain at least 20 vol.% of cubic boron nitride, that each have a ridge forming a cutting edge having a length of 0.5 mm to 4.0 mm, and that are respectively arranged in said first and second seating recesses; and

a respective brazed bonding layer that respectively secures said first and second sintered body members to said tool substrate in said first and second seating recesses, wherein said brazed bonding layer contains Cu and 0.5 wt.% to 65 wt.% of Ti and/or Zr.

20. (previously presented) The indexable insert according to claim 19, wherein each said sintered body member is a respective integral hard sintered body.

21. (previously presented) The indexable insert according to claim 19, wherein each said sintered body member is a composite member including a hard sintered body and a cemented carbide support.

1 22. (previously presented) The indexable insert according to
2 claim 19, wherein said brazed bonding layer consists of 20
3 wt.% to 30 wt.% of Ti, 20 wt.% to 30 wt.% of Zr, and a
4 remainder of Cu and inevitable impurities.

1 23. (previously presented) The indexable insert according to
2 claim 19, wherein said remaining thickness of said
3 remaining portion is from 32.8 % to 87.3 % of said total
4 substrate thickness.

[RESPONSE CONTINUES ON NEXT PAGE]